

## WHAT IS CLAIMED IS:

1. A multi-beam power contact comprising:  
a main body having a connector interface edge and a mounting edge;  
a plurality of at least three beams extending from said connector interface edge  
of said main body adapted to be electrically engaged with a mating connector; and  
5 said beams comprising contact areas adapted for electrical connection with the  
mating connector.

2. The multi-beam power contact of claim 1, wherein at least two of said beams  
have different normal forces within a range of normal forces.

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3. The multi-beam power contact of claim 1, wherein said plurality of beams  
comprise at least eight beams divided into four pairs of opposed beams, each pair of  
opposed beams being adapted to engage opposite sides of the mating connector.

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4. The multi-beam power contact of claim 1, wherein at least one of said beams  
is an initial contact beam and at least one of said beams is a non-initial contact beam;  
and

the contact areas of said at least one initial contact beam being arranged to  
electrically connect to the mating connector before the contact areas of said at least  
20 one non-initial contact beams electrically connect to the mating connector while said  
multi-beam power contact is being mated to the mating connector.

25 5. The multi-beam power contact of claim 4, wherein said at least one initial  
contact beam extends further from said main body than said at least one non-initial  
contact beam.

6. The multi-beam power contact of claim 5, wherein said plurality of beams comprise two initial contact beams and at least two non-initial contact beams.

7. The multi-beam power contact of claim 1, wherein said beams are divided into 5 two groups of beams arranged along two substantially parallel planes.

8. The multi-beam power contact of claim 1, wherein said beams are formed integral with said main body.

10 9. The multi-beam power contact of claim 1, wherein at least two of said beams are aligned in a common plane and separated by a slot.

10. The multi-beam power contact of claim 1, wherein at least two of said beams are aligned in a common plane and have different widths at a point of intersection 15 with said connector interface edge.

11. The multi-beam power contact of claim 1, wherein at least one beam has a length greater than a length of an adjacent beam.

20 12. The multi-beam power contact of claim 1, wherein a beam closest to said mounting edge is longer than any other beam.

13. A power connector comprising:

a main body having a connector interface edge and a mounting edge;

25 a plurality of beam pairs extending from said connector interface edge of said main body;

said beam pairs each comprising two beams; and

said beams comprising contact areas for electrical connection.

14. The power connector of claim 13, wherein at least two of said beam pairs have different normal forces within a range of normal forces.

5 15. The power connector of claim 13, wherein two beams forming each beam pair are aligned substantially symmetric to each other.

10 16. The power connector of claim 13, wherein at least one of said beam pairs is an initial contact beam pair and at least one of said beam pairs is a non-initial contact beam pair; and

15 the contact areas of said at least one initial contact beam pair being arranged to electrically connect to a mating connector before the contact areas of said at least one non-initial contact beam pair electrically connect to the mating connector when said power connector is mated to the mating connector.

17. The power connector of claim 16, wherein said at least one initial contact beam pair extends further from said main body than said at least one non-initial contact beam pair.

20 18. The power connector of claim 17, wherein said plurality of beam pairs comprise a total of one initial contact beam pair and at least two non-initial contact beam pairs.

25 19. The power connector of claim 13, wherein said beams are divided into two groups of beams arranged along two substantially parallel planes.

20. The power connector of claim 13, wherein said beams are integral with said main body.

21. The power connector of claim 13, wherein at least two of said beams are aligned in a common plane and separated by a slot.

5 22. The power connector of claim 13, wherein at least two of said beams are aligned in a common plane and have different widths at a point of intersection with said connector interface edge.

10 23. The power connector of claim 13, wherein at least one beam pair has a length greater than a length of an adjacent beam pair.

24. The power connector of claim 13, wherein a beam pair closest to said mounting edge is longer than any other beam.

15 25. A power connector, said power connector comprising:  
a main body, said main body comprising a first body portion and a second body portion;  
said first and second body portions including connector interface edges and mounting edges;  
20 a plurality of beam pairs extending from said connector interface edges of said main body;  
said beam pairs each comprising two beams;  
said beams comprising contact areas for electrical connection.

25 26. The power connector of claim 25, wherein at least two of said beam pairs have different normal forces within a range of normal forces.

27. The power connector of claim 25, wherein each said beam pair is comprised of a first beam pair member extending from said connector interface edge of said first body portion and a second beam pair member extending from said connector interface edge of said second body portion.

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28. The power connector of claim 27, wherein beams forming a beam pair are aligned substantially symmetric to each other.

29. The power connector of claim 25, wherein at least one of said beam pairs is an initial contact beam pair and at least one of said beam pairs is a non-initial contact beam pair; and

the contact areas of said at least one initial contact beam pair being arranged to electrically connect to a mating connector before the contact areas of said at least one non-initial contact beam pair electrically connect to the mating connector while said power connector is mated to said second connector.

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30. The power connector of claim 29, wherein said at least one initial contact beam pair extends further from said main body than said at least one non-initial contact beam pair.

31. The power connector of claim 30, wherein said plurality of beam pairs comprise a total of one initial contact beam pair and three non-initial contact beam pairs.

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32. The power connector of claim 25, wherein said main body comprises cross-beams connecting joining edges of said first and second body portions; and

one of said cross-beams being located proximal to said connector interface edges.

33. A power connector comprising:

5 a main body having a connector interface edge and a mounting edge;  
a plurality of beam pairs extending from said connector interface edge of said main body;  
said beam pairs each comprising two beams;  
said beams comprising contact areas for electrical connection;  
10 at least one of said beam pairs being an initial contact beam pair and at least one of said beam pairs being a non-initial contact beam pair; and  
said contact areas of said at least one initial contact beam pair being arranged to electrically connect to a mating connector before the contact areas of said at least one non-initial contact beam pair electrically connect to the mating connector while  
15 said power connector is mated to the mating connector.

34. The power connector of claim 33, wherein said beams are divided into two groups of beams arranged along two substantially parallel planes.

20 35. The power connector of claim 33, wherein said beams are integral with said main body.

36. The power connector of claim 33, wherein at least two of said beams are aligned in a common plane and separated by a slot.

25 37. The power connector of claim 33, wherein at least two of said beams are aligned in a common plane and have different widths at a point of intersection with said connector interface edge.

38. The power connector of claim 33, wherein at least one beam has a length greater than a length of an adjacent beam.

5 39. The power connector of claim 33, wherein a beam pair closest to said mounting edge is longer than any other beam pair.